REMARKS/ARGUMENTS

I. Concerning the Amendments

Claim 1 is amended to include the temperature range of Claim 10, and Claim 10 is cancelled. Claims 1 and 8 are amended to specify that the gas stream that is acid-gas-rich is fed to a first stage compressor. Support for the term 'first stage compressor' can be found in the specification at, e.g., page 6, line 22.

Claim 8 is also amended to correct typographical errors, and to indicate that the pressure Vessel is operated at essentially a single pressure. Support for this amendment can be found in, e.g. Example 1 and Example 2. Specifically, in Example 2, the pressure in the Vessel is in the range of the 135 psia of the reboiler and, after a pressure drop of 3 psia, 132 psia in the reflux accumulator.

II. Concerning the Rejection under 35 U.S.C. 102

Claims 1, 2, 4-6, 8, 9 13 and 15-16 stand rejected under 35 U.S.C. 102(e) as being anticipated by Rochelle '774 (hereinafter Rochelle).

Applicants' invention relates to a process for the removal and recovery of acid gas from an aqueous treatment fluid. The fluid comprises at least one chemically absorbed acid gas and at least one acid gas-absorbing chemical agent. The regeneration step, which separates a first stream (A) from a second stream (B), is conducted in a pressure vessel, at a pressure of 50 to 300 psia.

Amended Claim 1 is not anticipated by Rochelle in view of the fact that Claim 1 further specifies that the pressure Vessel is operated at a temperature in excess of about 137.8°C (280°F) and below about 204.4°C (400°F). Rochelle does not disclose or suggest operating at such temperatures.

Amended Claim 8 is not anticipated by Rochelle in view of the fact that Claim 8 specifies that the pressure Vessel is operated at essentially a single pressure. In contrast, Rochelle in paragraph [0014] states: "The method involves replacing the conventional single pressure stripper … with a multipressure stripper … ."

One significant advantage of Applicants' process is a reduction in the capital investment required in compression equipment. Rochelle's process is very capital intensive, requiring multiple compressors and associated additional piping and instrumentation.

There is no suggestion in Rochelle that the advantageous results of the present invention, as outlined above, could be achieved by 1) conducting the separation step in a

pressure vessel under a pressure that exceeds 0.35 MPa absolute (50 psia) and does not exceed 2.1 MPa absolute (300 psia) while (using the terminology of Claim 1) supplying to the fluid sufficient heat to separate gaseous phase Stream B from liquid phase Stream A, and 2) subsequently introducing Stream B under said pressure to the intake of a first stage compressor.

In fact, Rochelle shows compression of the stripped CO_2 in four or five stages. There is no suggestion of a reduction in the number of compression stages.

A skilled person seeking to achieve the advantageous results as outlined above would not, therefore, have modified Rochelle by replacing the first and second compression stages at pressures of 2 atmosphere (approximately 29 psia) and 2.8 atmosphere (approximately 41 psia) with a first compression stage at a pressure which exceeds 0.35 MPa absolute (50 psia) but is less than 2.1 MPa absolute (300 psia).

Surprisingly, as can be seen from Applicants' examples, the desired operating conditions are maintained without requiring the input of significantly more heat.

III. Concerning the Rejections under 35 U.S.C. 103

Claims 3, 10, 12, and 14 stand rejected under 35 U.S.C. 103(a) as being obvious over Rochelle alone.

Claims 7 and 11 stand rejected under 35 U.S.C. 103(a) as being obvious over Rochelle in view of Asprion et al., (herinafter Asprion).

Applicants at this time elect to have the patentability of the dependent claims stand or fall with that of the corresponding independent claims, except that the patentability of Claim 12 is separately asserted in view of its temperature range.

Reconsideration and withdrawal of the rejections is respectfully requested.

IV. Conclusion

For the foregoing reasons, reconsideration of the claims and passing of the application to allowance are solicited.

Respectfully submitted,

/Paul_D_Hayhurst/
Paul D. Hayhurst
Registration No. 30,180
Phone: 989-636-9373

P. O. Box 1967
Midland, MI 48641-1967

PDH/sk